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ABSTRACT

This study compared the social interaction and types of symbolic play found in mixed-age and same-age preschool groups. The sample included 8 groups of 14 to 20 children, which were naturally formed and had been operating since the beginning of the school year. The four same-age groups included a group of 3- to 4-year-olds, a group of 4- to 5-year-olds, a group of 5- to 6-year-olds, and a group of 6- to 7-year-olds. The four mixed-age groups consisted of children between 3 or 4 years and 7 years. Each group was videotaped during spontaneous play. All play sequences classified as symbolic were selected and analyzed for content, degree of complexity, and the wholeness of the symbolic transformation using McLoyd's evaluation scheme. This scheme included the following categories: (1) animation; (2) reification; (3) attribution of object property; (4) substitution; (5) object realism; (6) attribution of non-existent object property; (7) situation attribution; and (8) role attribution. Findings indicated that children in mixed-age groups achieved higher forms of symbolic transformation than their peers in same-age groups and that role and situation attribution occurred more frequently in mixed-age groups. The study also found that children in mixed-age groups engaging in role play spent relatively long periods of time in that type of play and that children changed roles within the play sequences regardless of their age. (Contains 16 references.) (KDFB)

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SOCIAL INTERACTION AND TYPES OF PLAY IN MIXED-AGE AND SAME-AGE GROUPS IN EARLY-CHILDHOOD INSTITUTIONS

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ABSTRACT

Many mixed-age groups have recently been formed in early-childhood institutions in Slovenia. The results of research from other countries show that, in most cases, mixing of children of different ages, has a positive impact on an individual's cognitive, social and emotional development as well as on the social atmosphere of the group. Since this problem has not yet been examined in Slovenia, we have been interested in the influence of the mixed-age groups in the comparison with the same-age groups.

This part of the research deals with the degree of the development of the symbolic play, actually with the degree of symbolic transformation in the same-age and mixed-age groups. In the sample there were four mixed-age and four same-age groups. The symbolic play was analysed in terms of contents, the degree of complexity and the wholeness of the symbolic transformation. These variables were the basis for the comparison between children in the mixed-age groups and children in the same-age groups. The results, obtained by this study, show some interesting differences in the level of symbolism in the play and in the degree of complexity between children in both groups. Hopefully, the results of our study will help the early-childhood teachers in our country to get some new ideas of how to stimulate the symbolic play of children.

1. INTRODUCTION

Although there are various definitions of symbolic play, they all have some characteristics in common: the presence of representation, the gradual development of symbolic transformation, and the strong impact of symbolic play on the child's cognitive development and the development of social cognition.

1.1 Developmental aspects of symbolic play

The first forms of symbolic play are related to the child's own body. They are directed towards the child itself, therefore they are called 'autosymbolic plays' (e.g. the child pretends to be feeding itself with a spoon). Later, playing activities are directed outwards, especially towards the objects in the child's environment. In the process of the emergence and formation of object activities, the child first learns the general scheme of the activity with the object which is related to the object's social meaning, and only at a later stage forms activities which also refer to some other functions of the object and are dependent on its size, form, etc.

In the development of object activities, there are two kinds of transference or substitution. The child either transfers the activity learned under certain conditions to other conditions (e.g. the child having learned the scheme of combing its hair will, in the next phase, comb a doll's or a teddy bear's hair) or performs the same activity with the help of a substitutive object (so-called object substitution), e.g. when the child changes the scheme of combing its hair, a doll's hair, or a teddy bear's hair by not combing it with a comb but with a short stick acting as a comb. According to Fradkin, this is the period where the child names the imaginative state in which the toy is found, e.g. 'The doll is ill', and names the characteristics of objects, e.g. 'The soup is hot'.

At the initial developmental stage, playing activities are fairly simple and stereotyped; later, however, the child is already able to combine the activities and unite them into meaningful wholes.

The child uses many different ways to represent (symbolise) objects in play. Pellegrini (1987) argues that they can be classified according to two dimensions - along the continuum between the object and the representation transformation. The two dimensions indicate the degree of the child's symbolic transformation in play, which is characterised, on the one hand, as object transformation in the situations where it depends on objects; on the other hand, representation transformation is no longer strictly related to objects but to their representation. Unlike object transformation, representation transformation involves an abstraction, idea or theme which is relatively independent from any kind of object. From the point of view of ascertaining the symbolic transformation in play, McLoyd (1980) has produced a very interesting scheme, which we have used in our research and will be discussed in detail in the chapter on the method.

Numerous authors who have studied symbolic play talk about a similar developmental sequence reflected in the shift from the state of objects to the representation of objects, situations and events. This has been confirmed by many empirical studies (Elder & Pederson, 1978, Overton & Jackson, 1973, McLoyd, 1980, Pellegrini, 1987) which show that preschool children use higher forms of symbolic transformation and that symbolic transformations become more and more demanding and complex with the child's development.

1.2 Symbolic play in same-age and mixed-age groups of children

Recent literature shows an increase in research focused on the study of symbolic play in mixed-age and same-age groups. According to Howes and Farver (1987), within this wide area of research, the following issues are at the forefront: the study of the correlatives of social imaginative play; the study of the content and forms of metacommunication which indicate the beginnings and integration of imaginative play; and the study of the influence of fellow players in symbolic play (the field of social cognition). Let us briefly mention the results of some of these research studies.

Howes and Farver (1987) ascertain that two-year-olds more frequently use more complex forms of symbolic play when playing with five-year-olds than with their-

peers. The result of the research has been explained by the ability of the preschool children to structure the roles in play for both partners. The infants, who in comparison with the preschool ones use simpler forms of pretending and are more limited in their communication skills, cannot form such complex imaginative play when playing with their peers. The research confirms the findings of other authors that the interactions between children of different ages are, by their nature, asymmetrical. In the mixed-age pairs under study, the preschool children more often taught the younger ones, while the latter more frequently imitated the former.

It is also interesting to look at the results of the research demonstrating speech development and the development of communication skills. Children in mixed-age groups modify their speech to make it suitable for the level of the younger participants in play as well as their communication skills (Shatz & Gelman, 1973, in Roopnarine & Johnson, 1983). Hamilton and Stewart (1977, in Mounts & Roopnarine, 1987) describe the important contribution of mixed-age groups to the enlargement of the child's vocabulary and to the encouragement of the child's ability to empathise.

In their research, Mounts and Roopnarine (1987) also compare the cognitive aspect of play in mixed-age and same-age groups of three- and four-year-olds. The results show that there are no statistically significant differences in the number of dramatic themes developed by three- and four-year-olds in their play, and that there are no differences in the number of dramatic themes between same-age and mixed-age groups of children. The authors suggest that the number of dramatic themes is not a sufficient indicator of symbolic transformation, and mention the influence of various modes of interaction between children in symbolic play as a potential factor. It is interesting that the results of a number of other research studies also stress the connection between the cognitive and the social aspect of play. The more play becomes 'mature' in terms of cognition, the 'more mature' is its social component. Therefore, symbolic play which includes a lot of pretending is supposed to be connected to more mature forms of social interaction. According to some authors, the social imaginative play connecting the pretending to the social play with other children is developed only after the age of three. Such a kind of play demands the interpersonal coordination of the actions of all the participants in play and, simultaneously, the preservation of the link between the

real and the substitutive object, situation or activity. The child must integrate the pretending and various roles into social play, e.g. the relationship between mother and child, or between driver and passenger.

The summary of the results of various research studies dealing with the influence of, and the connection between, various areas of the child's development in mixed-age groups leads to findings which cannot be ignored. The studies show that a mixed-age environment has a very stimulative impact on infants. They learn various social and cognitive skills while observing and imitating the more complex forms of behaviour of preschool children who also act as their tutors. On the other hand, playing with infants improves the preschool children's communication and intellectual skills, their prosocial and protective behaviour.

2. THE PROBLEM

The present study deals with the degree of symbolic transformation in play of children in same-age and mixed-age groups in preschool institutions.

3. THE HYPOTHESIS

The working hypothesis is as follows: Children in mixed-age groups will achieve higher forms of symbolic transformation (the degree of complexity and the wholeness of the transformation) than their peers in same-age groups.

4. THE METHOD

4.1 The sample

The sample includes eight groups of children. There are four same-age groups, i.e. a group of children between three and four years of age, a group of children between four and five, a group of children between five and six, and a group of children between six and seven. The age span in the same-age groups is twelve months maximum.

There are four mixed-age groups of children. Each mixed-age group includes children between three or four and seven years of age.

The groups are naturally formed and have been operating as such at least since the beginning of the school year.

In the same-age and mixed-age groups there are fourteen to twenty children; the share of girls and boys was not deliberately planned.

4.2. The procedure

Phase one: Data collection

Each group of children was videotaped during their spontaneous play. We agreed with the preschool teachers that they prepared everything to meet the conditions and offer possibilities for imaginative play. The children were playing in their playrooms. Videotaping lasted thirty minutes.

Phase two: The observation and analysis of the videotapes

In the first phase of the observation of the videotapes, all the sequences of play which could be classified as symbolic were selected. These were then analysed by means of McLoyd's scheme for the evaluation of symbolic play (1980). The evaluation scheme involves the level of the object and representation transformation and includes the following categories:

The object transformation

1. Animation: inanimate objects are given the characteristics of animate ones.

e.g. the child says, 'My doggy (a toy) is going for a walk.'

2. Reification: an imaginative object is reified, being functionally related to the existing object.

e.g. the child pretends to be drinking some liquid from an empty cup and says, 'This juice is really good.'

3. Attribution of object property: the child attributes object properties either to an existing object or to an imaginative one which is functionally related to the real or actual object.

e.g. the child says, 'Bang, bang' and shoots with a plastic gun or a stick.

4. Substitution: the child attributes a new identity to an existing object.

e.g. the child names a big wooden cube: 'This is my car.'

5. Object realism: it involves pretending that the imaginative object really exists, although it is not in the least like the object the child is playing with.

e.g. the child says, 'I'm using this brush as if it were a lawnmower.'

6. Attribution of non-existent object property: the child attributes certain properties to a non-existent object.

e.g. the child says, 'I'm taking some vitamins,' and pretends to be taking a pill.

7. Situation attribution: the child pretends that there exists an imaginative situation.

e.g. the child says, 'O. K. this is now the doctor's surgery.'

8. Role attribution: the child plays imaginative roles.

e.g. the child says, 'I'll be a doctor.'

5. THE RESULTS AND QUALITATIVE ANALYSIS

5.1. The same-age groups

Table 1: The results of the same-age group: aged between three and four.

THEME	CATEGORIES[1]	NO. OF CHILDREN[2] (sex)[3]
driving a car ('Brrr, brrr,...')	3 - attribution of object property	2 M passing the toy car to each other
shooting with a wooden stick, saying, 'Bang, bang'	3 - attribution of object property	1 M parallel play 1 M
pretending to pour the liquid from a jug into a cup	2 - reification	1 F
going to school or a shop (carrying a schoolbag or a shopping basket)	7 - situation attribution, but in a very, very fragmentary form	1 M parallel play 1 M some brief interactions
drinking from a cup	2 - reification	1 M

Legend:

[1]The categories are taken from McLoyd's scheme for the evaluation of symbolic play.

[2]Number of children means the number of children involved in play.

[3]Sex: M - male, F - female

Note: Speech occurs very seldom, therefore there is no additional support or explanation as to the activity of the children. It seems difficult to talk about symbolic play in the strict sense of the word since it is more the case of some simple symbolic elements or schemes. In most cases symbolic play has been going on for just a short period of time, except in the case of the girl pouring the liquid from the jug into the cup (theme three). Even when there are more children involved in play (two), there is no coordination or discussion between them.

Table 2: The results of the same-age group: aged between four and five.

THEME	CATEGORIES	NO. OF CHILDREN (sex)
looking through binoculars (two plastic tubes)	3 - attribution of object property	1 M
imitating a dog (walking on all fours and barking)	3 - attribution of animal property	1 M
phoning: holding the receiver and imitating the phone ringing, 'Ring, ring', then talking over the phone	3 - attribution of object property	1 M 1 F
doctors ('I'm a doctor')[4]	8 - role attribution	3 F (1 patient, 2 doctors) the sex structure changes
looking through a telescope (one plastic tube)	3 - attribution of object property	1 M
playing the guitar (strumming a plastic board)	4 - substitution	1 M
taking care of teddy bears, dolls (taking their clothes on and off)	1 - animation	1 F each girl with her own 1 F toy
cooking, drinking coffee	2 - reification	1 F
teacher and mother: 'What will you be - a teacher or mother?' a girl asks another girl. The teacher gives sheets of paper for each doll to draw on, the mother dresses and undresses a baby, takes the baby for a pee, goes to another playing area and comes back[5]	8 - role attribution	2 F

Note:

[4]Doctors: play is not continuous, there are several interruptions, e.g. when the 'patient' stops playing - play continues when a new patient is obtained. The doctors are not the same children all the time either. The doctor's main occupation is giving shots to the patients. More complex activities cannot be observed.

[5]It is interesting that the two girls combine roles which are not complementary. The playing of one runs parallel to the other all the time.

Table 3: The results of the same-age group: aged between five and six.

THEME	CATEGORIES	NO. OF CHILDREN (sex)
at the hairdresser's	8 - role attribution	2 F
dressing a doll	1 - animation	1 F
cooking	7 - situation attribution	2 M
bathing a doll	1 - animation	1 F
undressing a doll (preparing the doll for a bath)	1 - animation	1 F 2 M jumping round the bath and checking on the temperature of water
towelling a doll	1 - animation	1 F
combing a doll's hair	1 - animation	1 F
dressing a doll	1 - animation	1 F each girl with her own 1 F doll
resuscitating a man who has swallowed something and is now choking ('Urša, look, I'm choking,' screams a boy lying on the floor)	7 - situation attribution 8 - role attribution	1 F resuscitating 2 M: one resuscitating, the other lying on the floor and choking

Table 4: The results of the same-age group: aged between six and seven.

THEME	CATEGORIES	NO. OF CHILDREN (sex)
doctors	8 - role attribution (a doctor, a nurse, patients)	2 F - a doctor, a nurse, 1 patient F, M
cooking, feeding; mothers and children ('Set the table.' 'Sit at the table.') drinking tea from toy teacups, eating biscuits from little plates	8 - role attribution 7 - situation attribution	4 F
building a cardboard house ('This is a house. Here's the door.')	2 - reification	7 M

5.2. The mixed-age groups

Table 5: The results of the mixed age group: aged between three and seven.

THEME	CATEGORIES	NO. OF CHILDREN (sex)
at the hairdresser's	8 - role attribution 7 - situation attribution (customers waiting)	9 children: 3-4 hairdressers (F), the rest (M + F) are customers

Note: In the mixed-age playing group of children, it is not only preschool children who are acting as hairdressers - some infants also take on that role.

Table 6: The results of the mixed age group: aged between three and seven.

THEME	CATEGORIES	NO. OF CHILDREN (sex)
doctors[6]	7 - situation attribution (the doctor's surgery, the waiting room, hospital) 8 - role attribution (doctors, nurses, sick persons, patients in the waiting room)	3 M doctors 1 F nurse 4 patients: 1 in the doctor's surgery, 3 in hospital 3-5 patients waiting in the waiting room
baking cakes from clay ('I'm a cook.' 'I'm making doughnuts.')	8 - role attribution	3 M each one is baking for himself

Note:

[6]The roles are clearly defined, instructions are supported by speech. The roles of doctors and nurses are assumed by the preschool children, while the patients in the waiting room and hospital are the infants.

There is a lot of discussion, the division of functions (tasks) is noticeable: one child summons the patients, the second stamps their medical certificates, etc. Each child plays its role and does not interfere in the roles of other children.

The sequence of tasks performed by the doctor is the same as in real life: he disinfects the wound, the nurse passes him the bandage, he puts on the bandage, etc.

Play was strongly encouraged by the preschool teacher, who structured the environment in order to match play: the beds represented 'hospital', 'the waiting room' had chairs for patients, there was a bed in 'the doctor's surgery', etc.

Table 7: The results of the mixed age group: aged between three and seven.

THEME	CATEGORIES	NO. OF CHILDREN (sex)
shopping	7 - situation attribution (a shop, shop assistants, the counter, money) 8 - role attribution (customers, shop assistants)	3 F shop assistants 9 customers (8 F, 1 M)
two mothers with their babies: going shopping, then back home, taking care of the babies, 'Now the babies are going to bed.'	8 - role attribution	2 F each girl with her own toy
pretending to pour the liquid into a cup, drinking from that cup	2 - reification	1 F

Note: The prevailing activity in the group is shopping. The majority of children take part in it, even those who are assuming other roles as well (e.g. the two mothers with their babies, the girl drinking from the cup, etc.).

Table 8: The results of the mixed age group: aged between three and seven.

THEME	CATEGORIES	NO. OF CHILDREN (sex)
driving a police car (making sounds of a siren while pushing a toy car before him)	3 - attribution of object property	1 M
talking over a walkie-talkie (holding a piece of plastic beside his ear, saying, 'Please, remove your car.')	4 - substitution	1 M
playing with toy cars ('I'll park the car here, then you say, what now when I can't get out.' After a while the next explanation about the parked car, 'She's resting now, she'll come out later.')	7 - situation attribution	4 F
cooking (mixing dough, adding real water, etc.), putting the cup with the dough on the stove (which is really a radio)	7 - situation attribution	4 F

6. CONCLUSION

Although it has not been our intention to analyse the developmental aspect of symbolic play, we can ascertain that symbolic play changes with the age of children; it involves more representation transformation and role play, and certain playing activities, which are already very structured, are performed over longer periods of time.

Our hypothesis can also be confirmed since the children in mixed-age groups achieved higher forms of symbolic transformation than their peers in same-age groups. In searching for an answer to the question as to why higher categories of symbolic play, such as role attribution and situation attribution, which fall within representation transformation, are more frequently present in mixed-age groups, the sphere of influence of the cognitive factors must be expanded to the field of social development, the development of social cognition. Our research study confirms that in mixed-age groups, the role definition in symbolic play is provided on a higher level than in same-age groups, which, of course, enables social imaginative play to develop. It is of utmost importance that all the participants in social imaginative play (regardless of their age) 'understand' their roles. We can agree with the findings of some other authors (e.g. Golomb, 1979, Johnson & Ershler, 1981) who suggest that symbolic play which involves a large amount of pretending is connected with more mature forms of social interaction.

The children in mixed-age groups engaging in role play (e.g. at the hairdresser's, doctor's, shopping) spent relatively long periods of time in that kind of play (fifteen to twenty minutes or more), and, what is of particular interest, the children were changing roles regardless of their age (all of them could be, for example, doctors, hairdressers, etc.).

The research, however, raises a dilemma in its method. It concerns the matter of the standardisation of the conditions under which the children were playing (space, material for play, indirect guiding of the preschool teacher). Certainly, the 'natural' approach, in which the children can play in their everyday environment, has many

advantages over the laboratory one. In future it would be very interesting to tape and then analyse in greater detail speech communication, which is undoubtedly a very important element of the quality of symbolic play.

We can conclude that mixed-age groups of children in preschool institutions are a very suitable environment for the development of symbolic play. If we indirectly infer from the quality of symbolic play that it raises possibilities of encouraging both social and cognitive development, then we may take another step forward and, from the point of view of the child's development, confirm that it is sensible to form mixed-age groups (the age span between three and seven) in preschool institutions.

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